Project Overview

Phase II - Network Architecture Alternatives

This step was performed to determine the optimal network configuration that should be followed by each location to support information technology requirements and critical success factors. We analyzed alternative technology and strategies for improving activities within each location. We believe suggested strategies can be developed by:

- ✓ Benchmarking network performance against new development in other locations to identify targets for network consolidation and tuning. (i.e., routing, switching)
- ✓ Understanding the operational support and financial ramifications of the major alternatives (i.e., voice/data consolidation, LAN gateways, Ethernet attachments, etc.)
- ✓ The level of inter-building communication and data sharing that is currently being performed, as well as should be performed (i.e. future LAN connectivity, combining multiple data circuits for different applications serving City departments).

Project Overview

Phase III - Network Strategy

In accordance with the competitive landscape evolving from the *Communications Reform Act of 1996*, and *Michigan House Bill 5721*, Plante & Moran developed a network architecture that supports the short and long term voice/data/video network requirements of the City. With the expanding selection of alternatives that Competitive Access Providers (CAPs) will market, it is revolutionizing the current state of telecommunications offerings. The WAN infrastructure recommendations have been developed to accommodate future requirements.

The recommendations for a Wide Area Network were based upon the following functional areas:

- ✓ Current network overview and anticipated traffic load
- ✓ Internet bandwidth utilization
- ✓ Current Incumbent and Competitive Local Exchange Carrier (ILEC & CLEC) network alternatives
- ✓ Future voice, data & video bandwidth utilization
- ✓ Current state-of-the-art assessment on WAN bandwidth capacities and alternatives

Project Overview

Phase III - Network Strategy

The report includes discussion of the following functional areas:

- ✓ Network design, connectivity & performance requirements
- ✓ Wide area network architecture and integration
- ✓ Network management & security
- ✓ Disaster recovery network design and operations management
- ✓ Analysis of support requirements, both for the vendor and the City

There can be many combinations of network technologies, interfaces and device interactions. Our network design strategy was based on sound strategies for information management in the 21st century, and the experience of other municipalities facing similar issues as the City of Detroit.